



## Materials Declaration Form

<b>IPC</b>	<b>1752</b>	<b>Version</b>	<b>2</b>
<b>Form Type *</b>	<b>Distribute</b>		
<b>Sectionals *</b>	<b>Material Info</b> <b>Manufacturing Info</b>	<b>Subsectionals *</b>	<b>A-D</b>

\*: Required Field

Supplier Information			
<b>Company Name *</b>	<b>STMicroelectronics</b>	<b>Response Date *</b>	<b>2018-06-28</b>
<b>Contact Name *</b>	Refer to Supplier Comment section		Refer to Supplier Comment section
<b>Contact Phone *</b>	Refer to Supplier Comment section	<b>Contact Email *</b>	Refer to Supplier Comment section
<b>Authorized Representative *</b>	<b>Rossana Bonaccorso</b>	<b>Representative Title</b>	<b>ADG MD Champion</b>
<b>Representative Phone *</b>	Refer to Supplier Comment section	<b>Representative Email *</b>	Refer to Supplier Comment section
<b>Supplier Comment</b>	Online Technical Support - STMicroelectronics : <a href="http://www.st.com/web/en/support/support.html">http://www.st.com/web/en/support/support.html</a>		

**Uncertainty Statement**

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**Legal Statement**

<b>Supplier Acceptance *</b>	<b>true</b>	<b>Legal Declaration *</b>	<b>Standard</b>
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**Legal Statement**

Supplier certifies that it gathered the provided information and such information is true and correct to the best of its knowledge and belief, as of the date that Supplier completes this form. Supplier acknowledges that Company will rely on this certification in determining the compliance of its products. Company acknowledges that Supplier may have relied on information provided by others in completing this form, and that Supplier may not have independently verified such information. However, in situations where Supplier has not independently verified information provided by others, Supplier agrees that, at a minimum, its suppliers have provided certifications regarding their contributions to the part(s), and those certifications are at least as comprehensive as the certification in this paragraph. If the Company and the Supplier enter into a written agreement with respect to the identified part(s), the terms and conditions of that agreement, including any warranty rights and/or remedies provided as part of that agreement, will be the sole and exclusive source of the Supplier's liability and the Company's remedies for issues that arise regarding information the Supplier provides in this form.

Product				
Mfr Item Number	Mfr Item Name	Version	Mfr Site	Date
STP11NK40ZFP	TSFP*EZ446W2	A	3068	2018-06-28
Amount	UoM	Unit type	ST ECOPACK Grade	
1900.00	mg	Each	ECOPACK2	
	Comment	ECOPACK® 2 is STMicroelectronics trade name for ROHS compliant device without Brominated and Chlorinated compound (900ppm) and without Antimony oxide flame retardant ( in each organic material)		

Manufacturing information				
J-STD-020 MSL Rating	Classification Temp	Nbr of Reflow Cycles		
NA	NA	NA		
bulk Solder Termination	Terminal Plating	Terminal Base Alloy	Comment	
NA	Tin (Sn), matte	Copper Alloy		


  
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Package Designator	Size	Nbr of instances	Shape	
SIP	10.2-16.15-4.5	3	Through-hole	
Comment	TO 220 ISO FULL PACK IN LINE			

QueryList : RoHS Directive 2011/65/EU-July 2011 – Annex II amended by Directive 2015/863-March 2015	
Query	Response
1 - Product(s) meets EU RoHS requirement without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements except lead in solder and this usage may qualify under the lead in solder '7b' exemption (other selected exemptions may apply)	FALSE
3 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
4 - Product(s) does not meet EU RoHS requirements and is not under exemptions	FALSE
Exemption Id.	Description
7a	Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead)

QueryList : ELV directive : 2000/53/EC amended 2017/2096 _November 2017	
Query	Response
1 - Product(s) meets EU ELV requirements without any exemptions	FALSE
2 - Product(s) meets EU RoHS requirements by application of the selected exemption(s)	TRUE
Exemption Id.	Description
8e	Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

QueryList : California Prop65 list, dated 25th May 2018			
Query			Response
1 - The product does not contain identified substance from California Prop 65 List, no exposure to consumers is foreseen			FALSE
2 - The product is containing below substance(s) from California Prop 65 List, no exposure to consumers is foreseen			TRUE
Substance	amount in product (mg)	Application	ppm in product
Nickel	0.74	Die - Leadframe	388
Lead	8.29	Soft solder	4363

QueryList : REACH-15th January 2018				
Query				Response
1 - Product(s) does not contain REACH Substances Of Very High Concern above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	amount in product (mg)	Application	ppm in product
2 - Product(s) does not contain REACH Substances Of Very High Concern in any Embedded article nor Homogeneous Material above the limits per the definition within REACH				true
CategoryLevel_Name	CategoryLevel_Threshold	Amount in Embedded Article / Homogeneous Material (mg)	Application - Article / Homogeneous Material	ppm in Article /Homogeneous Material

Material Composition Declaration : note : Substance present with less 0.001mg will not be declared in this document						Mfr Item Name	TSFP*E2446W2					
Homogeneous Material	Material Group	Mass	UoM	Level	Substance Category	Substance	CAS	Exempt	Mass	UoM	Concentration in homogeneous material (ppm)	Concentration in product (ppm)
Die	M-011 Other inorganic materials	9.509	mg	supplier	die	Silicon (Si)	7440-21-3		9.179	mg	965296	4831
				supplier	metallization	Aluminium (Al)	7429-90-5		0.129	mg	13566	68
				supplier	Passivation	Silicon Nitride	12033-89-5		0.043	mg	4522	23
				supplier	Passivation	Silicon Oxide	7631-86-9		0.069	mg	7256	36
				supplier	back side metallization	Titanium (Ti)	7440-32-6		0.004	mg	421	2
				supplier	back side metallization	Nickel (Ni)	7440-02-0		0.063	mg	6625	33
Leadframe	M-004 Copper and its alloys	605.985	mg	supplier	back side metallization	Silver (Ag)	7440-22-4		0.022	mg	2314	12
				supplier	alloy	Copper (Cu)	7440-50-8		604.469	mg	997498	318142
				supplier	alloy	Iron (Fe)	7439-89-6		0.605	mg	999	319
				supplier	alloy	Iron Phosphide (FeP)	26508-33-8		0.182	mg	300	96
				supplier	metallization	Nickel (Ni)	7440-02-0		0.674	mg	1112	355
Soft solder	Solder	8.681	mg	JIG - R	solder	Lead (Pb)	7439-92-1	7a-Lead in high mel	8.290	mg	954959	4363
				supplier	solder	Silver (Ag)	7440-22-4		0.217	mg	24997	114
				supplier	solder	Tin (Sn)	7440-31-5		0.174	mg	20044	92
				supplier	metallization	Phosphorus (P)	7723-14-0		0.055	mg	91	29
Bonding wires	M-011 Other inorganic materials	0.932	mg	supplier	wire	Aluminium (Al)	7429-90-5		0.928	mg	995708	488
				supplier	wire	Magnesium (Mg)	7439-95-4		0.004	mg	4292	2
				supplier	mold compound	Quartz	14808-60-7		888.319	mg	700000	467536
Encapsulation	M-011 Other inorganic materials	1269.027	mg	supplier	mold compound	Silica, vitreous	60676-86-0		95.177	mg	75000	50093
				supplier	mold compound	Epoxy resin	25068-38-6		177.664	mg	140000	93507
				supplier	mold compound	phenol resin	29690-82-2		88.832	mg	70000	46754
				supplier	mold compound	metal hydroxide	21645-51-2		12.690	mg	10000	6679
				supplier	mold compound	carbon black	1333-86-4		6.345	mg	5000	3339
Connections coating	Solder	5.866	mg	supplier	solder alloy	Tin (Sn)	7440-31-5		5.866	mg	1000000	3087